



## U.S. Environmental Protection Agency

### EPA Response to September 11

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## WTC Residential Dust Cleanup Program: Modified-Aggressive and Aggressive Sampling

Residents may request cleaning and testing for airborne asbestos or they may request testing alone. In either case, testing options remain the same. The collection of air samples for testing will take approximately eight hours and, if conducted in conjunction with cleaning, must be performed within one day of the completion of cleanup work. The purpose of collecting air samples is to determine if the concentration of asbestos in the air meets EPA's health-based cleanup criteria.

In order to evaluate the concentration of asbestos in the air, the dust or fibers in the home need to be re-suspended. Residents have a choice between two forms of airborne asbestos testing, modified-aggressive and aggressive. The tests differ in how dust and fibers are re-suspended. They are alike in all other aspects. With dust and fibers re-suspended, three to five air samplers are located in the residence and run for approximately eight hours. These samplers draw in a measured volume of room air and collect (remove) dust particles and fibers being carried by the air. The collected sample is then examined for asbestos and the results are compared to a health-based cleanup criteria. If the results of either form of testing fail to meet EPA's cleanup criteria, EPA will clean or re-clean and then re-test the residence. If testing again fails to meet EPA's cleanup criteria, EPA will attempt to identify the source of the asbestos. This may result in a recommendation that some or all fabrics in the home be discarded.

Modified-aggressive testing simulates the room-air movement you would expect in normal living conditions. Twenty-inch fans (one per 10,000 cubic feet of room space) are run for the duration of the sampling.

Aggressive testing is conducted in the same way except that, prior to the beginning of air sampling, a one-horsepower leaf blower is used to direct a jet of air towards the corners, walls, fabric surfaces and ceiling to dislodge and resuspend fibers and dust. Aggressive testing is usually used following an asbestos removal project in an unoccupied building. The aggressive method creates room-air movement that is much greater than you would expect to occur in a home. In an occupied residential environment, particularly one with carpeting and other fabrics, it is possible that the vigorous air flow will loosen so many fibers that the air samplers become clogged. If the air sampler gets clogged, the test becomes invalid.

If aggressive air sampling results in an invalid test in a home that has not been cleaned, EPA will recommend that the residence be cleaned and then re-tested. In the case of a residence that EPA has cleaned, the Agency will re-clean and re-test the residence. If, after the second cleaning, testing is invalidated because aggressive resuspension again clogs the air sampler, EPA will attempt to identify the source of the dust or fiber overload. This may result in a recommendation that some or all fabrics in the home be discarded.

The two types of testing make different demands on occupants of the residence in terms of preparation, occupancy and re-occupancy, as outlined in the table below.

	Modified-Aggressive	Aggressive
Preparation	No special preparation	Occupant must remove pictures, paintings, or other wall hangings from the walls, remove items that could be blown over from shelves and flat surfaces, and must secure any other items that would be susceptible to being blown over and damaged. In test-only homes, EPA will cover upholstered furniture at the occupant's request.
Occupancy	Occupants may, if they wish, remain in their home during testing. <sup>1</sup>	Occupants must vacate their residence during testing.
Re-entry	N/A	Occupants may not re-enter their residence for 48-hours to allow the dust to settle.

<sup>1</sup> Occupants with known allergies, asthma or other health concerns should consult their health care provider and should consider leaving while testing is underway.

The Project Monitor will conduct a post-cleaning inspection of the apartment with the resident at the completion of modified-aggressive sampling or upon re-entry after aggressive sampling. Residents should inspect the apartment and identify any damage at this time and sign-off on the Project Completion Form. Damage or loss that occurs as a result of the cleanup or testing is the responsibility of the contractor.

EPA will notify residents and owners of the results of the post-cleanup airborne asbestos testing within two to three weeks (by e-mail, longer if by U.S. mail). Residence-specific test results will not be made public.